

## Case 387 : Narrative

Case Vehicle (A): 2003 Chevrolet
Type: S-10 ZR5, 4-door, 4x4 pickup
Driver: 51-year-old male
CDC: 12-RPES-1, 12-LZAW-3, 12-FYEW-6

This is a fatal crash. The driver of case vehicle (A) died of multiple injuries.

### SITUATION

[1](#) [2](#) [3](#) [4](#) It was daylight and the sky was cloudy, but the road surface was dry and free of defects as case vehicle (A), a pickup truck, was traveling west at about 70 mph (113 kph) (based on EDR data) in the westbound lane of a three-lane, one-way, divided asphalt roadway with a posted speed limit of 55 mph (89 kph). Due to a brain aneurysm that was revealed at autopsy, the driver lost consciousness and case vehicle (A) departed the roadway, went down a slight grassy incline, traveled southwest for 23 meters, and [5](#) scraped a metal post with the right side. [6](#) [7](#) [8](#) Case vehicle (A) then continued another 45 meters in a southwest direction and struck a tree with the left side, causing the left side of the cargo box to be torn off. [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) Case vehicle (A) continued in a southwest direction for another 90 meters until the front end struck a 58-cm diameter tree. Upon impact, case vehicle (A) rotated 90 degrees counterclockwise, and came to rest facing south against the tree. Case vehicle (A) was towed from the scene due to damage.

The police accident report indicates fatal injuries to the driver of case vehicle (A) who was pronounced dead at the scene. An autopsy was performed and the toxicology tests were positive for cocaine, metabolite, and oxycodone.

### GENERAL VEHICLE DAMAGE AND ESTIMATED CRASH SEVERITIES

[16](#) [17](#) [18](#) Direct damage to the front of case vehicle (A) from the frontal impact with the tree began at the left-front bumper corner and continued 100-cm to the right, resulting in 65% vehicle overlap. [19](#) [20](#) The maximum frontal crush at bumper level was 125 cm and occurred 70-cm from the left-front bumper corner.

[21](#) Direct damage to the left side of case vehicle (A) from the side impact with the tree began 66-cm rearward of the left-front axle and continued 280-cm rearward. The maximum lateral crush was 20 cm and occurred at the B-pillar near the roof rail. The left-side doors were crushed to the right and the left side of the cargo box was torn off.

[22](#) Direct damage to the right side of case vehicle (A) from the side impact with the metal post began 30-cm rearward of the right fender and continued rearward 61 cm. The maximum lateral crush was about 1 cm and occurred at the rear of the front passenger door, 15-cm above the sill.

Using the WinSMASH crash reconstruction program and [19](#) [20](#) crush profiles for case vehicle (A), the

following impact severity was estimated for the frontal impact with the tree:

		Estimated Velocity Change - kph (mph)		
Vehicle	Variable	Total	Longitudinal	Latitudinal
Case Vehicle (A)	delta V	76 (47)	-76 (-47)	0 (0)

Case vehicle (A) was equipped with an Event Data Recorder (EDR) that recorded non-deployment and deployment events. The EDR data indicate a vehicle speed of 69 mph (111 kph) at 5 seconds before impact and a maximum longitudinal velocity change of -35 mph (-56 kph) during the impact. They also indicate that the driver seatbelt was unbuckled and that the dash-mounted airbag was not suppressed. The data indicate that the brake switch was activated, the throttle was at 62%, and the vehicle speed was 72 mph (116 kph) two seconds before deployment, but that the brake switch was deactivated and the throttle was decreased to 35% with a speed of 53 mph (85 kph) one second before airbag deployment. The non-deployment event occurred one second prior to the deployment event and involved a maximum velocity change of -.25 mph (-.40 kph).

## DESCRIPTION OF DAMAGE TO CASE VEHICLE (A)

### Exterior

Direct damage to the front and left side of case vehicle (A) was extensive. [16 17 18](#) The direct damage from the frontal impact with the tree was primarily to the left front of the vehicle and included the hood, the hood latch, the grille, the radiator, and the left headlight assembly. [23](#) The left front of the hood was crushed to the rear into the grille and radiator, the hood was folded up in the middle, the hood latch was jammed, [24 25](#) the left hood hinge was bent and separated, and the right hood hinge was bent but not separated. [24 26](#) The left-rear portion of the hood was elevated and it appears to have contacted and cracked the windshield.

[27 28](#) Damage to the left side from the frontal impact with the tree involved the left fender, the left-front wheel, the left A-pillar, the driver door, and the door sill. The fender was crushed to the rear into the left-front wheel and displaced to the left. The left-front wheel was pushed rearward resulting in a 67-cm decrease in the left wheelbase, and the left-front tire was flat. [28 29](#) The upper section of the left A-pillar was displaced rearward into a nearly vertical orientation. The lower section of the left A-pillar was displaced rearward, the front of the driver door was buckled out, and the driver door sill and front of the left running board were displaced down.

[30 31](#) Direct damage from the left-side impact with the tree began at the front of the driver door and extended rearward along the vehicle. [32 33 34](#) The front portion of the roof siderail and the B-pillar were crushed to the right, the window frames of the left-side doors were deformed rearward, the side mirror was broken off, the lower section of the driver door was displaced rearward into the rear door, both doors were jammed shut, and all the door glazing was disintegrated. [35 36](#) The rear portion of the roof siderail between the A- and C-pillars was crushed down, the left side of the roof rack was crushed down and separated from its rear attachments between the B- and C-pillars, and the upper and lower sections of the left C-pillar were damaged. The left side panel of the cargo box was entirely separated from the vehicle and the left-rear wheel was displaced out.

[37 38](#) At the rear of the cab, the glazing was disintegrated and the window frame was buckled. [39](#) In the rear of the vehicle, the bumper support was buckled up on the left side, the liner was separated from the truck bed, and the tailgate was separated from the cargo box.

[40](#) On the right side of case vehicle (A), the stabilizer bar was detached from the axle but [41](#) the front wheel was not damaged and there was no significant change in the right wheelbase. [42](#) [43](#) The right fender was displaced to the left and the front door and the running board were bowed out. [43](#) [44](#) [45](#) There was a scrape and a small dent on the lower section of the front door from contact with the metal post, the rear door was jammed shut, the upper C-pillar was damaged, [46](#) and the right-rear wheel was displaced out. [47](#) The right-front door was operational, the right-side glazing was intact, and there was no damage to the upper or lower sections of the right A- and B-pillars or to the side panel of the cargo box.

## Interior

[48](#) [49](#) This vehicle was equipped with steering-wheel and dash-mounted frontal-impact airbags and both deployed during the frontal impact with the tree. In the driver seating area, [50](#) there was a small tear in the bottom of the lower-left quadrant of the steering-wheel airbag but [51](#) there was no damage to the airbag module cover. [52](#) [53](#) The upper and right portions of the steering-wheel rim were deformed and [54](#) the upper-right steering-wheel spoke was broken and detached at its base, but there was no rotation of the steering column. [55](#) [56](#) There was no damage to the windshield header or to the sunvisor but the roof lining was buckled. [57](#) [58](#) [59](#) The interior trim on the left A-pillar and the lower instrument panel cover were displaced, and there were scuffmarks on the A-pillar, on the lower instrument panel, on the driver door panel, on the detached knee-bolster cover, and on the left side of the vertical console. [60](#) The backrest and cushion of the driver seat were deformed, the seat was rotated slightly to the right, and [61](#) there was a fabric transfer on the lower portion of the backrest. [62](#) The interior of the driver door was buckled out, the door armrest was broken and separated, the window control box and wiring were displaced, the door handle and the door lock were jammed, the side storage pocket was cracked, and the door glazing was disintegrated. [63](#) The toepan in the driver area was crushed to the rear and the foot controls were jammed.

[64](#) [65](#) [66](#) In the center-front area, the roof lining was buckled and the rearview mirror was detached from the windshield, but it was not damaged. The instrument panel cover was displaced, the radio controls were jammed, and [66](#) [67](#) the floor console and center console were displaced.

[68](#) [69](#) In the right-front seating area, there were small tears in the upper-left, lower-left, and lower-right quadrants of the dash-mounted airbag fabric, but there was no damage to the airbag module cover. [69](#) [70](#) [71](#) There was no damage to the interior of the roof, to the windshield header, to the sunvisor, to the A-pillar, to the passenger seat, or to the interior of the right-front door. [72](#) The glove-box door was displaced but it was operational, the vent cover was broken and separated, the vent ductwork was broken, and the wiring was displaced.

[73](#) [74](#) On the left side of the rear seating area, the roof interior and headliner were buckled and crushed to the right. [74](#) [75](#) [76](#) In the center-rear area, the headliner was buckled down, the front plastic cover of the roof console was missing, and the front panel of the cargo box was displaced forward. [76](#) On the right side of the rear seating area, there was no damage to the roof, to the headliner, to the B-pillar, or to the C-pillar, and the non-folding bench seat was loosened from the locking mechanism and forced to the front.

[77](#) [78](#) The following intrusions were noted and measured:

Location	Component	Distance (cm)	Direction
	toepan	48	to rear

left front	instrument panel	43	to rear
	steering column	29	to rear
	roof siderail	8	to right
center front	instrument panel	18	to rear
right front	toe pan	17	to rear
	instrument panel	15	to rear
left rear	B-pillar	10	to right
	roof siderail	10	to right

## OCCUPANT KINEMATICS AND INJURIES

It was determined by the autopsy that the 175-cm, 78-kg (5-ft 9-in, 173-lb) 51-year-old male driver suffered a brain aneurysm, which caused him to lose consciousness prior to the vehicle departing the road. [48 60](#) The driver was *not* using the three-point belt but the steering-wheel airbag deployed during the frontal impact with the tree. [79 80 81](#) The seatbelt was fully retracted and there were no webbing marks on the D-ring or on the continuous loop, indicating that the seatbelt was not used.

Due to the driver losing consciousness and not using the belt restraint, and the long off-road travel, it is likely that the driver was in close proximity to the steering wheel and airbag module at the time of the frontal impact with the tree. During the frontal impact with the tree, the driver moved further forward and slightly to the left relative to the vehicle interior, [51](#) into the steering wheel and the deploying steering-wheel airbag. He sustained a disarticulation of the atlanto-occipital, an incomplete transection of the aorta at the isthmus, lacerations to the left atrium, the left ventricle, and the pericardium, contusions to the right myocardium, and to the right subclavian aspect of the thorax, fractures of right ribs 1 through 4 and left ribs 2 and 3, and a displaced and depressed sternum fracture. These injuries are probably due to close-proximity loading of the lower face and chest by the deploying airbag but the chest injuries may also be due to chest loading by the rearward displaced steering wheel through the airbag. The driver sustained a laceration at the right frontoparietal hairline and a contusion to the forehead above the medial aspect of the right eyebrow from unknown sources. He sustained a contusion to the central aspect of the lower lip, probably from the deploying airbag, and a contusion to the anteromedial aspect of the left forearm, [48](#) possibly from the deploying airbag. He sustained a laceration to the dorsal aspect of the right hand, possibly due to contact with [59](#) the vertical console. He sustained a laceration and an abrasion to the anteromedial aspect of the right thigh, possibly due to [67](#) contact with the center console. He sustained abrasions to the right knee, to the proximal anteromedial aspect of the right leg, and to the left knee, [58](#) probably due to contact with the knee bolster.

The following table and [82](#) attached drawing summarize the injuries sustained by the driver of case vehicle (A).

Occupant: Driver	Age: 51 years	Gender: Male
Restraints: Steering-wheel airbag	Stature: 175 cm (5 ft, 9 in)	Mass: 78 kg (173 lb)
Injury Description	A.I.S.	Injury Source



—	—	Definite	Probable	Possible
Disarticulation, atlanto-occipital	2	—	Airbag	—
Incomplete transection of aorta at isthmus	4	—	Airbag	Steering wheel
Lacerations, left atrium and left ventricle	3	—	Airbag	Steering wheel
Laceration, pericardium	2	—	Airbag	Steering wheel
Laceration, right frontoparietal hairline	1	Unknown	—	—
Contusion, forehead above medial aspect of right eyebrow	1	Unknown	—	—
Contusion, central aspect of lower lip	1	—	Airbag	—
Contusion, right myocardium	1	—	Airbag	Steering wheel
Contusion, right subclavian aspect of thorax	1	—	Airbag	Steering wheel
Bilateral rib fractures: right ribs 1- 4, left ribs 2 and 3	3	—	Airbag	Steering wheel
Displaced depressed sternum fracture	2	—	Airbag	Steering wheel
Contusion, anteromedial aspect of left forearm	1	—	—	Airbag
Laceration, dorsal aspect of right hand	1	—	—	Vertical console
Laceration and abrasion, anteromedial aspect of right thigh	1	—	—	Center console
Left knee abrasion	1	—	Knee bolster	—
Right knee abrasion	1	—	Knee bolster	—
Abrasions, proximal anteromedial aspect of right leg	1	—	Knee bolster	—
Maximum A.I.S. Level	4	—	—	—
Injury Severity Score	21	FATAL	—	—

CASE NO.: 387-03

CASE VEHICLE: 2003 Chevrolet

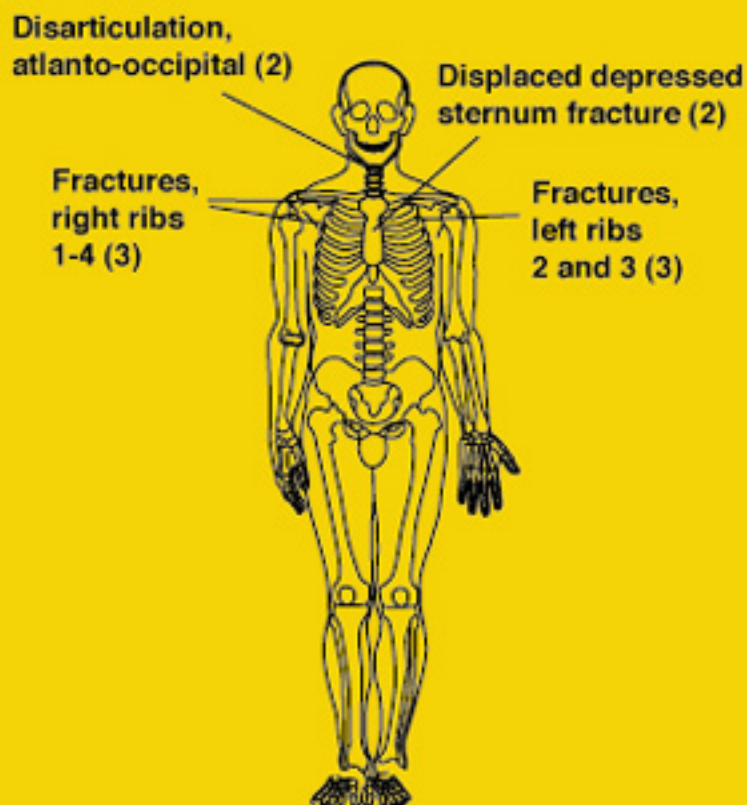
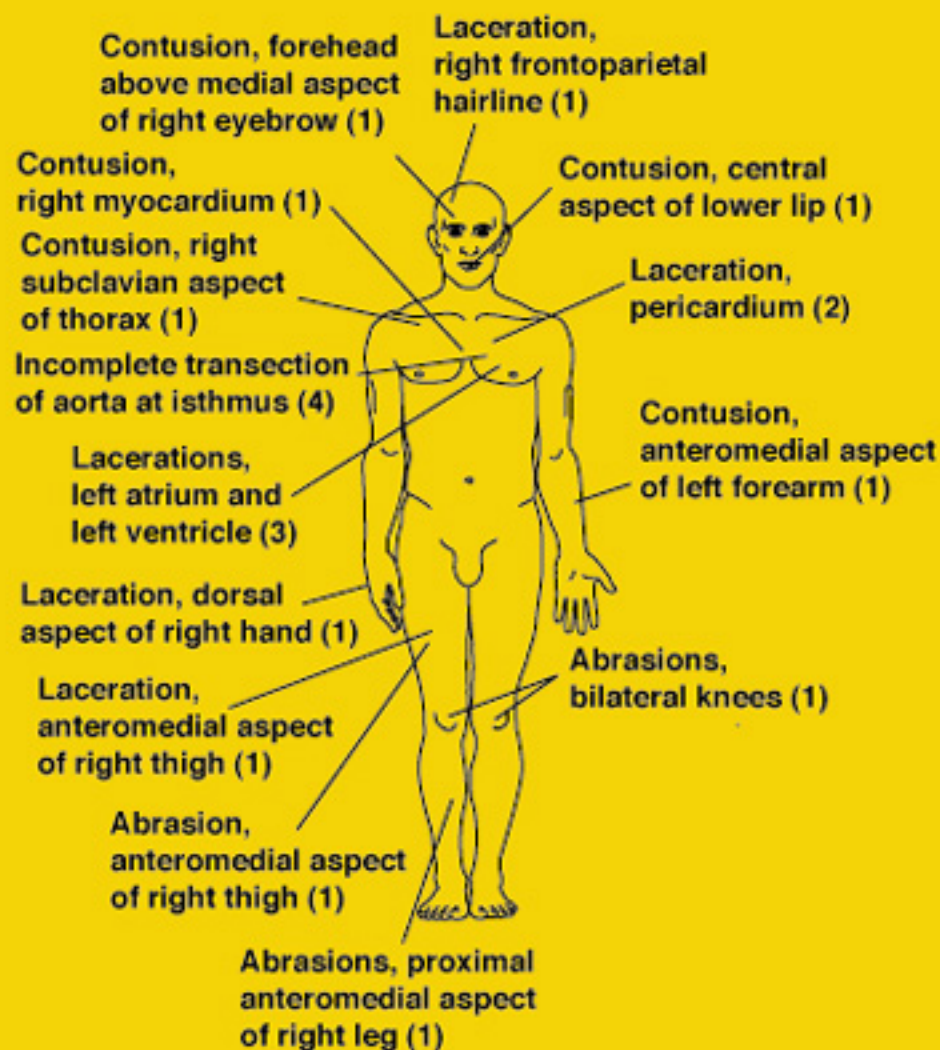
TYPE: S-10 ZR5, 4-door, 4x4 pickup

OCCUPANT: (Driver) 51-year-old male

STATURE: 175 cm (5 ft 9 in) MASS: 78 kg (173 lb)

RESTRAINTS: Steering-wheel airbag

SEVERITY: MAIS - 4 ISS - 21 FATAL

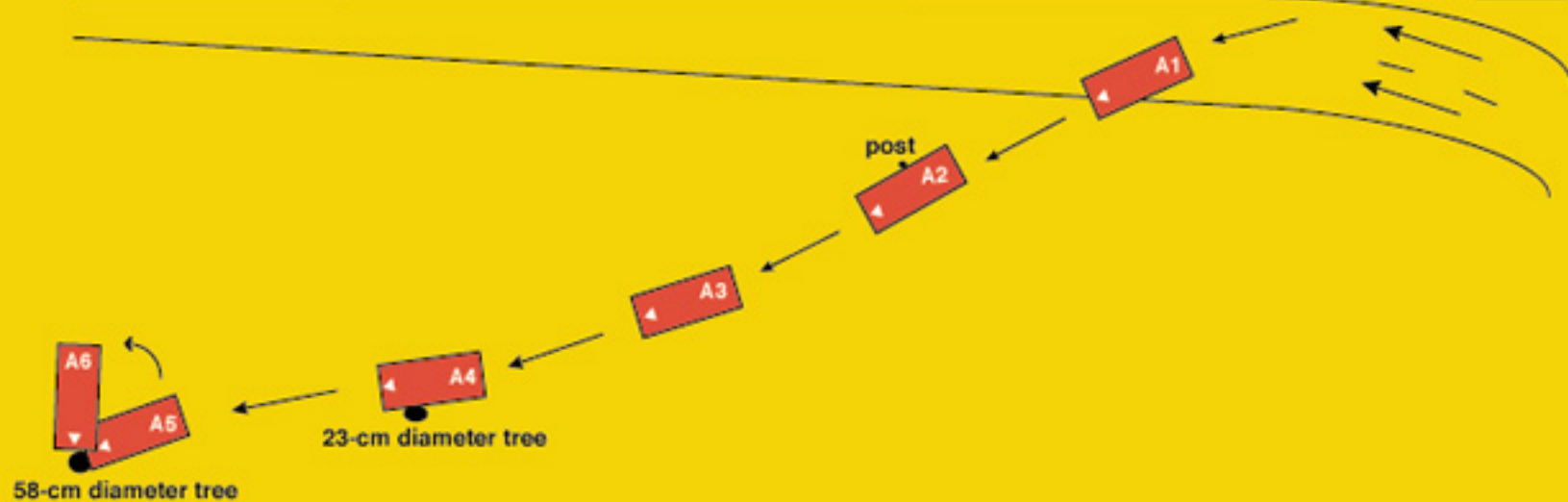


Case No.: 387-03  
Case Vehicle (A): 2003 Chevrolet  
Type: S-10 ZR5, 4-door, 4x4 pickup  
Driver: 51-year-old male

Light Conditions: Daylight  
Weather: Cloudy  
Road Surface: Dry  
Road Construction: Asphalt

North  
↑

Posted Speed Limit 55 mph (89 kph)



# Vehicle Report

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## General Conditions

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Variable Number and Name	Code Value	Code Description	Other Options
V206 — Urban/Rural Area	1	Urban	<a href="#">more</a>
V207 — Limited Access Highway	0	No	<a href="#">more</a>
V208 — Road Total Lanes	5	Divided, 4 lanes or more	<a href="#">more</a>
V209 — Intersecting Road Total Lanes	8	Not applicable	<a href="#">more</a>
V210 — Road Surface Type	1	Asphalt	<a href="#">more</a>
V211 — Road Defects	0	No	<a href="#">more</a>
V212 — Construction Zone	0	No	<a href="#">more</a>
V213 — Road Alignment Vertical Plane	1	Level	<a href="#">more</a>
V214 — Road Alignment Horizontal Plane	1	Straight	<a href="#">more</a>
V215 — Surface Covering	10	Dry	<a href="#">more</a>
V216 — Visibility Limitation	0	None	<a href="#">more</a>
V217 — Visibility Obstruction	0	None	<a href="#">more</a>
V218 — Speed Limit	6	86-90 km/h .. 55 mph	<a href="#">more</a>
V219 — Precipitation Type	0	None	<a href="#">more</a>
V220 — Precipitation Rate	8	Not applicable	<a href="#">more</a>
V221 — Temperature	6	16 to 25 C .. 60 to 77 F	<a href="#">more</a>

V222 — Crosswind	9	Unknown	<a href="#">more</a>
V223 — Light Conditions	1	Daylight	<a href="#">more</a>
V224 — Mechanical Malfunction Mention	0	No	<a href="#">more</a>
V225 — Case Vehicle and Object	1	Yes	<a href="#">more</a>
V226 — Case Vehicle Rollover	0	No	<a href="#">more</a>
V227 — Case Vehicle Ran Off Roadway	1	Yes	<a href="#">more</a>
V228 — Moving Case Vehicle/Contacted Moving Vehicle	0	No	<a href="#">more</a>
V229 — Case Vehicle/Contacted Stopped Vehicle	0	No	<a href="#">more</a>
V230 — Stopped Case Vehicle/Contactd Vehicle	0	No	<a href="#">more</a>
V231 — Total Vehicles Hit By Case Vehicle	0	0 vehicles	<a href="#">more</a>
V232 — Any Fire in Crash	0	No	<a href="#">more</a>
V233 — Max Police Severity-PAR	4	K - Fatal	<a href="#">more</a>
V234 — Driver Alcohol Involvement	0	Had not been drinking	<a href="#">more</a>
V235 — Driver Alcohol BAC	00	—	—
V236 — Driver Impairment Mention	1	Yes	<a href="#">more</a>
V237 — Driven/Towed From Scene	2	Towed Due to Damage	<a href="#">more</a>

## Other Vehicle

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Variable Number and Name	Code Value	Code Description	Other Options
V301 — Other Vehicle VIN	none	—	—
V302 — Other Vehicle Manufacturer/Body Code	99898	—	—
V303 — Other Vehicle Manufacturer	998	No Other Vehicle	<a href="#">more</a>
V304 — Other Vehicle Body Code	98	No Other Vehicle	<a href="#">more</a>
V305 — Other Vehicle Make/Model	0000	No other vehicle	<a href="#">more</a>
V306 — Other Vehicle Model Year	9999	No other vehicle	<a href="#">more</a>
V307 — Other Vehicle Mass	999998	No other vehicle	<a href="#">more</a>
V308 — Other Vehicle Number	8	No other vehicle	<a href="#">more</a>
V309 — Other Vehicle Number of Occupants	98	No other vehicle	<a href="#">more</a>
V310 — Other Vehicle Traveling Speed	999	Unknown	<a href="#">more</a>

V311 — Highest Police Injury Severity	8	Unoccupied Vehicle	<a href="#">more</a>
V312 — Other Vehicle Type	98	No Other Vehicle	<a href="#">more</a>
V313 — Other Vehicle Wheelbase (cm)	998	No other vehicle	<a href="#">more</a>
V314 — Average Track Width	999	Unknown	<a href="#">more</a>
V315 — Overall Length	999	Unknown	<a href="#">more</a>
V316 — Overall Width (OAW)	999	Unknown	<a href="#">more</a>
V317 — Front Overhang (FOH)	999	Unknown	<a href="#">more</a>
V318 — Rear Overhang (ROH)	999	Unknown	<a href="#">more</a>
V319 — Undeformed End Width (UEW)	999	Unknown	<a href="#">more</a>
V320 — Engine Displacement	9.9 l	—	—
V321 — Engine: Number of Cylinders	99	Unknown	<a href="#">more</a>
V322 — Direct Damage Length (DDL)	999	Unknown	<a href="#">more</a>
V323 — Front-End Overlap % (FEO)	99	Missing or Not applicable	<a href="#">more</a>
V324 — Vehicle Overlap % (VOL)	99	Missing or Not applicable	<a href="#">more</a>

## Case Vehicle General



[Click for case vehicle figure](#)

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Variable Number and Name	Code Value	Code Description	Other Options
V401 — VIN	1GCDT13X53K1	—	—
V402 — Manufacturer/Body Code	11312	—	—
V403 — Vehicle Manufacturer	113	Chevrolet	<a href="#">more</a>
V404 — Vehicle Body Code	12	—	—
V405 — Make/Model Code	2920	S-10/T-10 Pickup	<a href="#">more</a>
V406 — Model Year	2003	—	—
V407 — Vehicle Mass	001832 kg	—	—
V408 — Odometer Reading	888888	—	—
V409 — Number of Occupants	01	—	—
V410 — Traveling Speed	113 kph	—	—
V411 — Body Type	32	Pickup truck (small)	<a href="#">more</a>
V412 — Stolen Vehicle	8	Not currently collected	<a href="#">more</a>
V413 — Body Structure	1	Body and frame	<a href="#">more</a>
V414 — Transmission Type	1	Automatic	<a href="#">more</a>
V415 — Transmission Lever Location	3	Column	<a href="#">more</a>
V416 — Steering	1	Power	<a href="#">more</a>



V417 — Brakes	1	Power	<a href="#">more</a>
V418 — Brake Type	3	Disc - all wheels	<a href="#">more</a>
V419 — Brake Anti-lock Device	2	Four-wheel	<a href="#">more</a>
V420 — Air Conditioning in Vehicle	8	Not currently collected	<a href="#">more</a>
V421 — Drive Type	3	Four wheel	<a href="#">more</a>
V422 — Dual Rear Wheels	0	No	<a href="#">more</a>
V423 — Original Restraint System Type	3	Airbag	<a href="#">more</a>
V424 — Equipped With Roll Bar	0	No	<a href="#">more</a>
V425 — Roof Type	1	Solid	<a href="#">more</a>
V426 — Wheelbase	312 cm	—	—
V427 — Anti-lacerative Glass	0	None	<a href="#">more</a>
V428 — Average Track Width	142 cm	—	—
V429 — Overall Length	520 cm	—	—
V430 — Overall Width (OAW)	172 cm	—	—
V431 — Front Overhang	090 cm	—	—
V432 — Rear Overhang	120 cm	—	—
V433 — Undeformed End Width (UEW)	148 cm	—	—
V434 — Engine Displacement	4.3 l	—	—
V435 — Engine: Number of Cylinders	06	—	—
V436 — Direct Damage Length (DDL)	100 cm	—	—
V437 — Front End Overlap % (FEO)	68	—	—
V438 — Vehicle Overlap % (VOL)	65	—	—

## Case Vehicle Damage Description

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Variable Number and Name	Code Value	Code Description	Other Options
V501 — Maximum Crush - Front	125 cm	—	—
V502 — Maximum Crush - Right Side	001 cm	—	—
V503 — Maximum Crush - Rear	000 cm	No crush (or less than 1 cm.)	<a href="#">more</a>
V504 — Maximum Crush - Left Side	020 cm	—	—
V505 — Maximum Crush - Roof	000 cm	No crush (or less than 1 cm.)	<a href="#">more</a>
V506 — Maximum Crush - Other	000 cm	No crush (or less than 1 cm.)	<a href="#">more</a>

V507 — Are Events In Chronological Order	1	Yes	<a href="#">more</a>
V508 — Event 1 Impact Location	2	Shoulder/Median/Gore	<a href="#">more</a>
V509 — Event 1 Impact Configuration	47	RIGHT of case veh - object	<a href="#">more</a>
V510 — Event 1 Object/Vehicle Contacted	85	Small post/tree, rural mailbox, delineator	<a href="#">more</a>
V511 — Event 2 Impact Location	2	Shoulder/Median/Gore	<a href="#">more</a>
V512 — Event 2 Impact Configuration	27	LEFT of case veh - object	<a href="#">more</a>
V513 — Event 2 Object/Vehicle Contacted	77	Sign post, utility pole, tree	<a href="#">more</a>
V514 — Event 3 Impact Location	2	Shoulder/Median/Gore	<a href="#">more</a>
V515 — Event 3 Impact Configuration	17	FRONT of case veh - object	<a href="#">more</a>
V516 — Event 3 Object/Vehicle Contacted	77	Sign post, utility pole, tree	<a href="#">more</a>
V517 — Event 4 Impact Location	8	No 4th event	<a href="#">more</a>
V518 — Event 4 Impact Configuration	88	No 4th event	<a href="#">more</a>
V519 — Event 4 Object/Vehicle Contacted	00	No object/vehicle contacted	<a href="#">more</a>
V520 — Event 5 Impact Location	8	No 5th event	<a href="#">more</a>
V521 — Event 5 Impact Configuration	88	No 5th event	<a href="#">more</a>
V522 — Event 5 Object/Vehicle Contacted	00	No object/vehicle contacted	<a href="#">more</a>
V523 — Event 6 Impact Location	8	No 6th event	<a href="#">more</a>
V524 — Event 6 Impact Configuration	88	No 6th event	<a href="#">more</a>
V525 — Event 6 Object/Vehicle Contacted	00	No object/vehicle contacted	<a href="#">more</a>
V526 — Event 7 Impact On Road	8	No 7th event	<a href="#">more</a>
V527 — Event 7 Impact Configuration	88	No 7th event	<a href="#">more</a>
V528 — Event 7 Object/Vehicle Contacted	00	No object/vehicle contacted	<a href="#">more</a>
V529 — Primary CDC Case Vehicle -event Number	3	Event 3	<a href="#">more</a>
V530 — Primary CDC Case Vehicle - impact speed	085	—	—
V531 — Primary CDC Case	7	Other	<a href="#">more</a>

Vehicle - Estimated By			
V532 — Primary CDC Case Vehicle -crush	125	—	—
V533 — Primary CDC Case Vehicle -clock #1	12	12 o'clock	<a href="#">more</a>
V534 — Primary CDC Case Vehicle letter 1 #1	06	F - Front	<a href="#">more</a>
V535 — Primary CDC Case Vehicle letter 2 #1	25	Y - Side or end (F + P or L + C)	<a href="#">more</a>
V536 — Primary CDC Case Vehicle letter 3 #1	05	E - Everything below belt line	<a href="#">more</a>
V537 — Primary CDC Case Vehicle letter 4 #1	23	W - Wide impact area	<a href="#">more</a>
V538 — Primary CDC Case Vehicle Extent #1	06	Extent 6	<a href="#">more</a>
V539 — Primary CDC Case Vehicle -CDC #1	12FYEW6	—	—
V541 — Primary CDC Case Vehicle letter 1 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V542 — Primary CDC Case Vehicle letter 2 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V543 — Primary CDC Case Vehicle letter 3 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V544 — Primary CDC Case Vehicle letter 4 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V545 — Primary CDC Case Vehicle Extent #2	00	Missing Data/Not applicable	<a href="#">more</a>
V546 — Primary CDC Case Vehicle -CDC #2	9800000	—	—
V547 — Primary CDC Contacted Vehicle - Impact Speed	998	Not Applicable	<a href="#">more</a>
V548 — Primary CDC Contacted Vehicle - Estimated By	8	Not applicable (no vehicle/no impact)	<a href="#">more</a>
V549 — Primary CDC Contacted Vehicle -crush	998	Not Applicable	<a href="#">more</a>
V550 — Primary CDC Contacted Vehicle -clock #1	98	Not Applicable	<a href="#">more</a>
V551 — Primary CDC Contacted Vehicle letter 1 #1	00	Missing Data/Not applicable	<a href="#">more</a>
V552 — Primary CDC Contacted Vehicle letter 2 #1	00	Missing Data/Not applicable	<a href="#">more</a>
V553 — Primary CDC Contacted Vehicle letter 3 #1	00	Missing Data/Not applicable	<a href="#">more</a>

V554 — Primary CDC Contacted Vehicle letter 4 #1	00	Missing Data/Not applicable	<a href="#">more</a>
V555 — Primary CDC Contacted Vehicle Extent #1	00	Missing Data/Not applicable	<a href="#">more</a>
V556 — Primary CDC Contacted Vehicle -CDC #1	9800000	—	—
V558 — Primary CDC Contacted Vehicle letter 1 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V559 — Primary CDC Contacted Vehicle letter 2 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V560 — Primary CDC Contacted Vehicle letter 3 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V561 — Primary CDC Contacted Vehicle letter 4 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V562 — Primary CDC Contacted Vehicle Extent #2	00	Missing Data/Not applicable	<a href="#">more</a>
V563 — Primary CDC Contacted Vehicle -CDC #2	9800000	—	—
V564 — Secondary CDC Case Vehicle - Event No	2	Event 1	<a href="#">more</a>
V565 — Secondary CDC Case Vehicle - Impact Speed	999	Unknown	<a href="#">more</a>
V566 — Secondary CDC Case Vehicle - Estimated By	1	—	—
V567 — Secondary CDC Case Vehicle -crush	020	—	—
V568 — Secondary CDC Case Vehicle -clock #1	12	12 o'clock	<a href="#">more</a>
V569 — Secondary CDC Case Vehicle letter 1 #1	12	L - Left Side	<a href="#">more</a>
V570 — Secondary CDC Case Vehicle letter 2 #1	26	Z - Side or end (B + P or R + C)	<a href="#">more</a>
V571 — Secondary CDC Case Vehicle letter 3 #1	01	A - All	<a href="#">more</a>
V572 — Secondary CDC Case Vehicle letter 4 #1	23	W - Wide impact area	<a href="#">more</a>
V573 — Secondary CDC Case Vehicle Extent #1	03	Extent 3	<a href="#">more</a>
V574 — Secondary CDC Case Vehicle -CDC #1	12LZAW3	—	—
V576 — Secondary CDC Case Vehicle letter 1 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V577 — Secondary CDC Case	00	Missing Data/Not applicable	<a href="#">more</a>

Vehicle letter 2 #2			
V578 — Secondary CDC Case Vehicle letter 3 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V579 — Secondary CDC Case Vehicle letter 4 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V580 — Secondary CDC Case Vehicle Extent #2	00	Missing Data/Not applicable	<a href="#">more</a>
V581 — Secondary CDC Case Vehicle -CDC #2	9800000	—	—
V582 — Secondary CDC Contacted Vehicle - Impact Speed	998	Not Applicable	<a href="#">more</a>
V583 — Secondary CDC Contacted Vehicle - Estimated By	8	Not applicable (no vehicle/no impact)	<a href="#">more</a>
V584 — Secondary CDC Contacted Vehicle -crush	998	Not Applicable	<a href="#">more</a>
V585 — Secondary CDC Contacted Vehicle -clock #1	98	Not Applicable	<a href="#">more</a>
V586 — Secondary CDC Contacted Vehicle letter 1 #1	00	Missing Data/Not applicable	<a href="#">more</a>
V587 — Secondary CDC Contacted Vehicle letter 2 #1	00	Missing Data/Not applicable	<a href="#">more</a>
V588 — Secondary CDC Contacted Vehicle letter 3 #1	00	Missing Data/Not applicable	<a href="#">more</a>
V589 — Secondary CDC Contacted Vehicle letter 4 #1	00	Missing Data/Not applicable	<a href="#">more</a>
V590 — Secondary CDC Contacted Vehicle Extent #1	00	Missing Data/Not applicable	<a href="#">more</a>
V591 — Secondary CDC Contacted Vehicle -CDC #1	9800000	—	—
V593 — Secondary CDC Contacted Vehicle letter 1 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V594 — Secondary CDC Contacted Vehicle letter 2 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V595 — Secondary CDC Contacted Vehicle letter 3 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V596 — Secondary CDC Contacted Vehicle letter 4 #2	00	Missing Data/Not applicable	<a href="#">more</a>
V597 — Secondary CDC Contacted Vehicle Extent #2	00	Missing Data/Not applicable	<a href="#">more</a>
V598 — Secondary CDC Contacted Vehicle -CDC #2	9800000	—	—

## Crash Severity

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Variable Number and Name	Code Value	Code Description	Other Options
V601 — Case Vehicle Primary Impact Number	3	—	—
V602 — Primary Impact Total Delta-V	076 kph	—	—
V603 — Primary Case Vehicle Reconstructed Longitudinal Delta-V	-076 kph	—	—
V604 — Primary Case Vehicle Reconstructed Lateral Delta-V	0000 kph	—	—
V605 — Primary Case Vehicle Reconstructed Crush Energy	0418 kJ	—	—
V606 — Primary Impact Case Vehicle - reconstruction	22	Reconstructed, moderate confidence level	<a href="#">more</a>
V607 — Primary Case Vehicle Reconstruction Mode	2	CDC & detailed damage	<a href="#">more</a>
V608 — Primary Contacted Vehicle Reconstructed Total Delta-V	888	N/A	<a href="#">more</a>
	8888		



V609 — Primary Contacted Vehicle Reconstructed Longitudinal Delta-V		—	—
V610 — Primary Contacted Vehicle Reconstructed Lateral Delta-V	8888	—	—
V611 — Primary Contacted Vehicle Reconstructed Crush Energy	8888	—	—
V612 — Case Vehicle Secondary Impact Number	2	—	—
V613 — Secondary Case Vehicle Reconstructed Total Delta-V	999	Unknown	<a href="#">more</a>
V614 — Secondary Case Vehicle Reconstructed Longitudinal Delta-V	9999	—	—
V615 — Secondary Case Vehicle Reconstructed Lateral Delta-V	9999	—	—
V616 — Secondary Case Vehicle Reconstructed Crush Energy	9999	—	—
V617 —	08		

Secondary Case Vehicle Reconstruction Note		Skidding sideways	<a href="#">more</a>
V618 — Secondary Case Vehicle Reconstruction Mode	5	Not reconstructed	<a href="#">more</a>
V619 — Secondary Contacted Vehicle Reconstructed Total Delta-V	888	N/A	<a href="#">more</a>
V620 — Secondary Contacted Vehicle Reconstructed Longitudinal Delta-V	8888	—	—
V621 — Secondary Contacted Vehicle Reconstructed Lateral Delta-V	8888	—	—
V622 — Secondary Contacted Vehicle Reconstructed Crush Energy	8888	—	—
V623 — Case Vehicle Primary Impact Number	3	—	—
V624 — Primary Case Vehicle Reconstructed Total EBS	076 kph	—	—
V625 — Primary Case Vehicle	-076 kph		

Reconstructed Longitudinal EBS		—	—
V626 — Primary Case Vehicle Reconstructed Lateral EBS	0000 kph	—	—
V627 — Primary Case Vehicle Reconstructed Crush Energy	0418 kJ	—	—
V628 — Primary Case Vehicle Reconstruction Note	22	Reconstructed, moderate confidence level	<a href="#">more</a>
V629 — Primary Case Vehicle Reconstruction Mode	2	CDC & detailed damage	<a href="#">more</a>
V630 — Primary Contacted Vehicle Reconstruction Total EBS	888	N/A	<a href="#">more</a>
V631 — Primary Contacted Vehicle Reconstruction Longitudinal EBS	8888	—	—
V632 — Primary Contacted Vehicle Reconstruction Lateral EBS	8888	—	—
V633 — Primary Contacted Vehicle Reconstruction Crush Energy	8888	—	—

V634 — Case Vehicle Secondary Impact Number	2	—	—
V635 — Secondary Case Vehicle Reconstruction Total EBS	999	Unknown	<a href="#">more</a>
V636 — Secondary Case Vehicle Reconstruction Longitudinal EBS	9999	—	—
V637 — Secondary Case Vehicle Reconstruction Lateral EBS	9999	—	—
V638 — Secondary Case Vehicle Reconstruction Crush Energy	9999	—	—
V639 — Secondary Case Vehicle Reconstruction Note	08	Skidding sideways	<a href="#">more</a>
V640 — Secondary Case Vehicle Reconstruction Mode	5	Not reconstructed	<a href="#">more</a>
V641 — Secondary Contacted Vehicle Reconstruction Total EBS	888	N/A	<a href="#">more</a>
V642 — Secondary Contacted Vehicle Reconstruction Longitudinal	8888	—	—

EBS			
V643 — Secondary Contacted Vehicle Reconstruction Lateral EBS	8888	—	—
V644 — Secondary Contacted Vehicle Reconstruction Crush Energy	8888	—	—
V645 — Case Vehicle Reconstructed Impact Number	3	—	—
V646 — Case Vehicle Impact 1 Plane	1	Bumper	<a href="#">more</a>
V647 — Case Vehicle Impact 1 Direct Damage Length [DDL]	100 cm	—	—
V648 — Case Vehicle Impact 1 Max Crush	125 cm	—	—
V649 — Case Vehicle Impact 1 Field-L	120 cm	—	—
V650 — Case Vehicle Impact 1 C1	093 cm	—	—
V651 — Case Vehicle Impact 1 C2	110 cm	—	—
V652 — Case Vehicle Impact 1 C3	120 cm	—	—
V653 — Case Vehicle Impact 1 C4	116 cm	—	—

V654 — Case Vehicle Impact 1 C5	099 cm	—	—
V655 — Case Vehicle Impact 1 C6	010 cm	—	—
V656 — Case Vehicle Impact 1 +/- D	-024 cm	—	—
V657 — Case Vehicle Reconstructed Impact Number	2	—	—
V658 — Case Vehicle Impact 2 Plane	2	Above bumper	<a href="#">more</a>
V659 — Case Vehicle Impact 2 Direct Damage Length [DDL]	280 cm	—	—
V660 — Case Vehicle Impact 2 Max Crush	020 cm	—	—
V661 — Case Vehicle Impact 2 Field-L	999	Unknown	<a href="#">more</a>
V662 — Case Vehicle Impact 2 C1	999	Unknown	<a href="#">more</a>
V663 — Case Vehicle Impact 2 C2	999	Unknown	<a href="#">more</a>
V664 — Case Vehicle Impact 2 C3	999	Unknown	<a href="#">more</a>
V665 — Case Vehicle Impact 2 C4	999	Unknown	<a href="#">more</a>
V666 — Case Vehicle Impact 2 C5	999	Unknown	<a href="#">more</a>



V667 — Case Vehicle Impact 2 C6	999	Unknown	<a href="#">more</a>
V668 — Case Vehicle Impact 2 +/- D	0999 cm	—	—
V669 — Other Vehicle Reconstructed Impact Number	9	Unknown	<a href="#">more</a>
V670 — Other Vehicle Impact 1 Plane	9	Unknown	<a href="#">more</a>
V671 — Other Vehicle Impact 1 Direct Damage Length [DDL]	999	Unknown	<a href="#">more</a>
V672 — Other Vehicle Impact 1 Max Crush	999	Unknown	<a href="#">more</a>
V673 — Other Vehicle Impact 1 Field-L	999	Unknown	<a href="#">more</a>
V674 — Other Vehicle Impact 1 C1	999	Unknown	<a href="#">more</a>
V675 — Other Vehicle Impact 1 C2	999	Unknown	<a href="#">more</a>
V676 — Other Vehicle Impact 1 C3	999	Unknown	<a href="#">more</a>
V677 — Other Vehicle Impact 1 C4	999	Unknown	<a href="#">more</a>
V678 — Other Vehicle Impact 1 C5	999	Unknown	<a href="#">more</a>
V679 — Other Vehicle Impact 1 C6	999	Unknown	<a href="#">more</a>

V680 — Other Vehicle Impact 1 +/- D	9999	—	—
V681 — Other Vehicle Reconstructed Impact Number	9	Unknown	<a href="#">more</a>
V682 — Other Vehicle Impact 2 Plane	9	Unknown	<a href="#">more</a>
V683 — Other Vehicle Impact 2 Direct Damage Length [DDL]	999	Unknown	<a href="#">more</a>
V684 — Other Vehicle Impact 2 Max Crush	999	Unknown	<a href="#">more</a>
V685 — Other Vehicle Impact 2 Field-L	999	Unknown	<a href="#">more</a>
V686 — Other Vehicle Impact 2 C1	999	Unknown	<a href="#">more</a>
V687 — Other Vehicle Impact 2 C2	999	Unknown	<a href="#">more</a>
V688 — Other Vehicle Impact 2 C3	999	Unknown	<a href="#">more</a>
V689 — Other Vehicle Impact 2 C4	999	Unknown	<a href="#">more</a>
V690 — Other Vehicle Impact 2 C5	999	Unknown	<a href="#">more</a>
V691 — Other Vehicle Impact 2 C6	999	Unknown	<a href="#">more</a>
V692 — Other Vehicle Impact 2 +/- D	9999	—	—

## Case Vehicle Tires & Rims

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Variable Number and Name	Code Value	Code Description	Other Options
V701 — Left Front Wheel Damaged	1	Yes	<a href="#">more</a>
V702 — Right Front Wheel Damaged	0	No	<a href="#">more</a>
V703 — Right Rear Wheel Damaged	0	No	<a href="#">more</a>
V704 — Left Rear Wheel Damaged	1	Yes	<a href="#">more</a>
V705 — Left Front Tire Tread Type	4	All Weather	<a href="#">more</a>
V706 — Right Front Tire Tread Type	4	All Weather	<a href="#">more</a>
V707 — Right Rear Tire Tread Type	4	All Weather	<a href="#">more</a>
V708 — Left Rear Tire Tread Type	4	All Weather	<a href="#">more</a>
V709 — Left Front Carcass Construction	3	Radial	<a href="#">more</a>
V710 — Right Front Carcass Construction	3	Radial	<a href="#">more</a>
V711 — Right Rear Carcass Construction	3	Radial	<a href="#">more</a>
V712 — Left Rear Carcass Construction	3	Radial	<a href="#">more</a>
V717 — Left Front Tire Size	P23575R15	—	—
V718 — Right Front Tire Size	P23575R15	—	—
V719 — Right Rear Tire Size	P23575R15	—	—
V720 — Left Rear Tire Size	P23575R15	—	—

## Case Vehicle Fuel, Tank, Fire

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Variable Number and Name	Code Value	Code Description	Other Options
V801 — Propulsive Fuel Type	1	Gasoline	<a href="#">more</a>
V802 — Main Tank Location	413	Left of frame laterally - above vertically	<a href="#">more</a>
V803 — Main Filler Cap Location	313	Left of frame laterally - above vertically	<a href="#">more</a>



V804 — Main Tank Material	1	Steel	<a href="#">more</a>
V805 — Aux Tank Type	8	Not applicable (not equipped)	<a href="#">more</a>
V806 — Aux Tank Location	888	Not applicable (not equipped)	<a href="#">more</a>
V807 — Aux Filler Cap Location	888	Not applicable (not equipped)	<a href="#">more</a>
V808 — Aux Tank Material	8	Not applicable	<a href="#">more</a>
V901 — Fuel Leakage From Crash	0	No	<a href="#">more</a>
V1001 — Fire In Or On Case Vehicle	0	No	<a href="#">more</a>

## Case Vehicle Exterior

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Variable Number and Name	Code Value	Code Description	Other Options
V1101 — Hood Latch Released	0	No	<a href="#">more</a>
V1102 — Hood Latch Damaged	1	Yes	<a href="#">more</a>
V1103 — Hood Latch Jammed	1	Yes	<a href="#">more</a>
V1104 — Left Hood Hinge Damaged	1	Yes	<a href="#">more</a>
V1105 — Left Hood Hinge Separated	1	Yes	<a href="#">more</a>
V1106 — Right Hood Hinge Damaged	1	Yes	<a href="#">more</a>
V1107 — Right Hood Hinge Separated	0	No	<a href="#">more</a>
V1108 — Hood Remained On Vehicle	1	Yes	<a href="#">more</a>
V1109 — Rear Hood Edge Elevated	1	Yes	<a href="#">more</a>
V1110 — Edge Contacted Windshield	9	Unknown	<a href="#">more</a>
V1111 — Edge Penetrated Windshield	0	No	<a href="#">more</a>
V1112 — Hood Latch Location	1	Front of Vehicle	<a href="#">more</a>
V1113 — Eng/Transmissn Mount Separation	0	No	<a href="#">more</a>
V1114 — Steerng Column Flex Coupling	9	Unknown if equipped	<a href="#">more</a>
V1115 — Steerng Column Coupling Damaged	9	Unknown	<a href="#">more</a>
V1116 — Steerng Column Coupling Separated	9	Unknown	<a href="#">more</a>
V1117 — Eng Comp Telescopng Unit	88	Not collected	<a href="#">more</a>
V1118 — Comp Orig/Telescopd Diff	888	Not collected	<a href="#">more</a>
V1119 — Left Side Body Mount Separation	0	No	<a href="#">more</a>
V1120 — Upper Left A-pillar Separation	4	No separation, but damaged	<a href="#">more</a>

V1121 — Lower Left A-pillar Separation	4	No separation, but damaged	<a href="#">more</a>
V1122 — Upper Left B-pillar Separation	4	No separation, but damaged	<a href="#">more</a>
V1123 — Lower Left B-pillar Separation	4	No separation, but damaged	<a href="#">more</a>
V1124 — Upper Left C-pillar Separation	4	No separation, but damaged	<a href="#">more</a>
V1125 — Lower Left C-pillar Separation	4	No separation, but damaged	<a href="#">more</a>
V1126 — Upper Left D-pillar Separation	8	Not applicable (not equipped)	<a href="#">more</a>
V1127 — Lower Left D-pillar Separation	8	Not applicable (not equipped)	<a href="#">more</a>
V1128 — Left Front Door Opening Cause	0	Door did not open	<a href="#">more</a>
V1129 — Left Rear Door Opening Cause	0	Door did not open	<a href="#">more</a>
V1130 — Left Front Door Jammed Closed	1	Yes	<a href="#">more</a>
V1131 — Left Rear Door Jammed Closed	1	Yes	<a href="#">more</a>
V1132 — Rear Door Type	0	No door (includes pickups)	<a href="#">more</a>
V1133 — Rear Door Opening Cause	8	Not applicable (no rear door)	<a href="#">more</a>
V1134 — Rear Door Jammed Closed	8	Not applicable (no rear door)	<a href="#">more</a>
V1135 — Luggage Partition Damagd	8	Not applicable	<a href="#">more</a>
V1136 — Spare Tire Status	8	Not collected	<a href="#">more</a>
V1137 — Trailer Hitch Type	2	Bumper mount only (e.g. light truck)	<a href="#">more</a>
V1138 — Trailer Type	0	No trailer	<a href="#">more</a>
V1139 — Right Side Body Mount Separation	0	No	<a href="#">more</a>
V1140 — Upper Right A-pillar Separation	0	No	<a href="#">more</a>
V1141 — Lower Right A-pillar Separation	0	No	<a href="#">more</a>
V1142 — Upper Right B-pillar Separation	0	No	<a href="#">more</a>
V1143 — Lower Right B-pillar Separation	0	No	<a href="#">more</a>
V1144 — Upper Right C-pillar Separation	4	No separation, but damaged	<a href="#">more</a>

V1145 — Lower Right C-pillar Separation	0	No	<a href="#">more</a>
V1146 — Upper Right D-pillar Separation	8	Not applicable (not equipped)	<a href="#">more</a>
V1147 — Lower Right D-pillar Separation	8	Not applicable (not equipped)	<a href="#">more</a>
V1148 — Right Front Door Opening Cause	00	Door did not open	<a href="#">more</a>
V1149 — Right Rear Door Opening Cause	00	Door did not open	<a href="#">more</a>
V1150 — Right Front Door Jammed Closed	0	No	<a href="#">more</a>
V1151 — Right Rear Door Jammed Closed	1	Yes	<a href="#">more</a>
V1152 — Van Rear Door Type	8	Not applicable (not a van)	<a href="#">more</a>
V1153 — Windshield Cracked	 <a href="#">Click for windshield damage figure</a>	Yes	<a href="#">more</a>
V1154 — Windshield Broken	0	No	<a href="#">more</a>
V1155 — Windshield Cracked or Broken by Occupant	0	No	<a href="#">more</a>
V1156 — Bond Separation Extent	0	None	<a href="#">more</a>
V1157 — Windshield Code	 <a href="#">Click for windshield code figure</a>	—	—
V1158 — Did Sun/T Roof Open	8	Not Applicable	<a href="#">more</a>

## Case Vehicle Steering Column/Rim

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Variable Number and Name	Code Value	Code Description	Other Options
V1201 — Steering Wheel Rim Damage	1	Deformed slightly	<a href="#">more</a>
V1202 — Number of Steering Wheel Spokes	4	4 spokes	<a href="#">more</a>
V1203 — Steering Wheel Spoke	3		



Damage		Broken	<a href="#">more</a>
V1204 — Column Tilt Feature	2	Up	<a href="#">more</a>
V1205 — Column Swing-away Feature	0	Not equipped	<a href="#">more</a>
V1206 — Column Telescoping Feature	0	Not equipped	<a href="#">more</a>
V1207 — Wheel Energy Absorb Device	8	Not collected	<a href="#">more</a>
V1208 — Wheel Ea Orig/Damaged Diff	888	Not collected	<a href="#">more</a>
V1209 — Column Energy Absorb Device	88	Not collected	<a href="#">more</a>
V1210 — Column Ea Orig/Comprss Diff	888	Not collected	<a href="#">more</a>
V1211 — Shear Capsule Separation	888	Not collected	<a href="#">more</a>
V1212 — Column Vertical Rotation	0	No apparent rotation	<a href="#">more</a>
V1213 — Column Lateral Rotation	0	No apparent rotation	<a href="#">more</a>
V1214 — Steering Wheel Hub Damage	0	None	<a href="#">more</a>

## Case Vehicle Intrusion



Click for intrusion figures

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Variable Number and Name	Code Value	Code Description	Other Options
V1301 — Occupant Compartment Intrusion	1	Yes	<a href="#">more</a>
V1302 — Was Intrusion Catastrophic	0	No	<a href="#">more</a>
V1303 — Intrusion Number 01	01	Intrusion #1	<a href="#">more</a>
V1304 — Intrusion 01 Occupant Space Number	11	First row, Left seat	<a href="#">more</a>
V1305 — Intrusion 01 Intruding Object	03	Toe pan	<a href="#">more</a>
V1306 — Intrusion 01 Assoc Event Number	3	Event #3	<a href="#">more</a>
V1307 — Intrusion 01 Max Intrusion X-axis	48 cm	—	—
V1308 — Intrusion 01 Max Intrusion Y-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1309 — Intrusion 01 Max Intrusion Z-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1310 — Intrusion 01 Occupant	00		

Number		No contact or no intrusion	<a href="#">more</a>
V1311 — Intrusion 01 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1312 — Intrusion 01 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1313 — Intrusion 01 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1314 — Intrusion Number 02	02	Intrusion #2	<a href="#">more</a>
V1315 — Intrusion 02 Occupant Space Number	11	First row, Left seat	<a href="#">more</a>
V1316 — Intrusion 02 Intruding Object	01	Instrument panel	<a href="#">more</a>
V1317 — Intrusion 02 Assoc Event Number	3	Event #3	<a href="#">more</a>
V1318 — Intrusion 02 Max Intrusion X-axis	43 cm	—	—
V1319 — Intrusion 02 Max Intrusion Y-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1320 — Intrusion 02 Max Intrusion Z-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1321 — Intrusion 02 Occupant Number	01	Occupant number 1, contact	<a href="#">more</a>
V1322 — Intrusion 02 Injury Number	16	Injury #16	<a href="#">more</a>
V1323 — Intrusion 02 Occupant Number	01	Occupant number 1, contact	<a href="#">more</a>
V1324 — Intrusion 02 Injury Number	17	Injury #17	<a href="#">more</a>
V1325 — Intrusion Number 03	03	Intrusion #3	<a href="#">more</a>
V1326 — Intrusion 03 Occupant Space Number	11	First row, Left seat	<a href="#">more</a>
V1327 — Intrusion 03 Intruding Object	05	Steering column	<a href="#">more</a>
V1328 — Intrusion 03 Assoc Event Number	3	Event #3	<a href="#">more</a>
V1329 — Intrusion 03 Max Intrusion X-axis	29 cm	—	—
V1330 — Intrusion 03 Max Intrusion Y-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1331 — Intrusion 03 Max Intrusion Z-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1332 — Intrusion 03 Occupant Number	01	Occupant number 1, contact	<a href="#">more</a>
V1333 — Intrusion 03 Injury Number	02	Injury #2	<a href="#">more</a>
V1334 — Intrusion 03 Occupant Number	01	Occupant number 1, contact	<a href="#">more</a>

V1335 — Intrusion 03 Injury Number	03	Injury #3	<a href="#">more</a>
V1336 — Intrusion Number 04	04	Intrusion #4	<a href="#">more</a>
V1337 — Intrusion 04 Occupant Space Number	11	First row, Left seat	<a href="#">more</a>
V1338 — Intrusion 04 Intruding Object	14	Roof side rails	<a href="#">more</a>
V1339 — Intrusion 04 Assoc Event Number	2	Event #2	<a href="#">more</a>
V1340 — Intrusion 04 Max Intrusion X-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1341 — Intrusion 04 Max Intrusion Y-axis	08 cm	—	—
V1342 — Intrusion 04 Max Intrusion Z-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1343 — Intrusion 04 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1344 — Intrusion 04 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1345 — Intrusion 04 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1346 — Intrusion 04 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1347 — Intrusion Number 05	05	Intrusion #5	<a href="#">more</a>
V1348 — Intrusion 05 Occupant Space Number	12	First row, Center seat	<a href="#">more</a>
V1349 — Intrusion 05 Intruding Object	01	Instrument panel	<a href="#">more</a>
V1350 — Intrusion 05 Assoc Event Number	3	Event #3	<a href="#">more</a>
V1351 — Intrusion 05 Max Intrusion X-axis	18 cm	—	—
V1352 — Intrusion 05 Max Intrusion Y-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1353 — Intrusion 05 Max Intrusion Z-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1354 — Intrusion 05 Occupant Number	01	Occupant number 1, contact	<a href="#">more</a>
V1355 — Intrusion 05 Injury Number	13	Injury #13	<a href="#">more</a>
V1356 — Intrusion 05 Occupant Number	01	Occupant number 1, contact	<a href="#">more</a>
V1357 — Intrusion 05 Injury Number	17	—	—
V1358 — Intrusion Number 06	06	Intrusion #6	<a href="#">more</a>
V1359 — Intrusion 06 Occupant Space Number	13	First row, Right seat	<a href="#">more</a>

V1360 — Intrusion 06 Intruding Object	03	Toe pan	<a href="#">more</a>
V1361 — Intrusion 06 Assoc Event Number	3	Event #3	<a href="#">more</a>
V1362 — Intrusion 06 Max Intrusion X-axis	17 cm	—	—
V1363 — Intrusion 06 Max Intrusion Y-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1364 — Intrusion 06 Max Intrusion Z-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1365 — Intrusion 06 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1366 — Intrusion 06 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1367 — Intrusion 06 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1368 — Intrusion 06 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1369 — Intrusion Number 07	07	Intrusion #7	<a href="#">more</a>
V1370 — Intrusion 07 Occupant Space Number	13	First row, Right seat	<a href="#">more</a>
V1371 — Intrusion 07 Intruding Object	01	Instrument panel	<a href="#">more</a>
V1372 — Intrusion 07 Assoc Event Number	3	Event #3	<a href="#">more</a>
V1373 — Intrusion 07 Max Intrusion X-axis	15 cm	—	—
V1374 — Intrusion 07 Max Intrusion Y-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1375 — Intrusion 07 Max Intrusion Z-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1376 — Intrusion 07 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1377 — Intrusion 07 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1378 — Intrusion 07 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1379 — Intrusion 07 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1380 — Intrusion Number 08	08	Intrusion #8	<a href="#">more</a>
V1381 — Intrusion 08 Occupant Space Number	21	Second row, Left seat	<a href="#">more</a>
V1382 — Intrusion 08 Intruding Object	11	B-pillar	<a href="#">more</a>
V1383 — Intrusion 08 Assoc Event Number	2	Event #2	<a href="#">more</a>

V1384 — Intrusion 08 Max Intrusion X-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1385 — Intrusion 08 Max Intrusion Y-axis	10 cm	—	—
V1386 — Intrusion 08 Max Intrusion Z-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1387 — Intrusion 08 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1388 — Intrusion 08 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1389 — Intrusion 08 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1390 — Intrusion 08 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1391 — Intrusion Number 09	09	Intrusion #9	<a href="#">more</a>
V1392 — Intrusion 09 Occupant Space Number	21	Second row, Left seat	<a href="#">more</a>
V1393 — Intrusion 09 Intruding Object	14	Roof side rails	<a href="#">more</a>
V1394 — Intrusion 09 Assoc Event Number	2	Event #2	<a href="#">more</a>
V1395 — Intrusion 09 Max Intrusion X-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1396 — Intrusion 09 Max Intrusion Y-axis	10 cm	—	—
V1397 — Intrusion 09 Max Intrusion Z-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1398 — Intrusion 09 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1399 — Intrusion 09 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1400 — Intrusion 09 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1401 — Intrusion 09 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1402 — Intrusion Number 10	00	No Intrusion, None	<a href="#">more</a>
V1403 — Intrusion 10 Occupant Space Number	00	No Intrusion, None	<a href="#">more</a>
V1404 — Intrusion 10 Intruding Object	00	No Intrusion, None	<a href="#">more</a>
V1405 — Intrusion 10 Assoc Event Number	0	No Intrusion, None	<a href="#">more</a>
V1406 — Intrusion 10 Max Intrusion X-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1407 — Intrusion 10 Max Intrusion Y-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>

V1408 — Intrusion 10 Max Intrusion Z-axis	00 cm	0 cm or No Intrusion	<a href="#">more</a>
V1409 — Intrusion 10 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1410 — Intrusion 10 Injury Number	00	No injury or no intrusion	<a href="#">more</a>
V1411 — Intrusion 10 Occupant Number	00	No contact or no intrusion	<a href="#">more</a>
V1412 — Intrusion 10 Injury Number	99	Contact, injury unknown or data not collected	<a href="#">more</a>
V1413 — Door Intrusion Number 01	88	Not Applicable	<a href="#">more</a>
V1414 — Door Intrusion Number 01 Cause	8	Not applicable	<a href="#">more</a>
V1415 — Door Intrusion Number 02	88	Not Applicable	<a href="#">more</a>
V1416 — Door Intrusion Number 02 Cause	8	Not applicable	<a href="#">more</a>
V1417 — Door Intrusion Number 03	88	Not Applicable	<a href="#">more</a>
V1418 — Door Intrusion Number 03 Cause	8	Not applicable	<a href="#">more</a>
V1419 — Door Intrusion 01 Component	88	Not Applicable	<a href="#">more</a>
V1420 — Door Intrusion 01 Component Damaged 1	8	Not Applicable	<a href="#">more</a>
V1421 — Door Intrusion 01 Component Damaged 2	8	Not Applicable	<a href="#">more</a>
V1422 — Door Intrusion 02 Component	88	Not Applicable	<a href="#">more</a>
V1423 — Door Intrusion 02 Component Damaged 1	8	Not Applicable	<a href="#">more</a>
V1424 — Door Intrusion 02 Component Damaged 2	8	Not Applicable	<a href="#">more</a>
V1425 — Door Intrusion 03 Component	88	Not Applicable	<a href="#">more</a>
V1426 — Door Intrusion 03 Component Damaged 1	8	Not Applicable	<a href="#">more</a>
V1427 — Door Intrusion 03 Component Damaged 2	8	Not Applicable	<a href="#">more</a>
V1428 — Door Intrusion 04 Component	88	Not Applicable	<a href="#">more</a>
V1429 — Door Intrusion 04 Component Damaged 1	8	Not Applicable	<a href="#">more</a>
V1430 — Door Intrusion 04 Component Damaged 2	8	Not Applicable	<a href="#">more</a>

**Case Vehicle**  
**Airbag(s)**



[Click for Driver airbag figure](#)

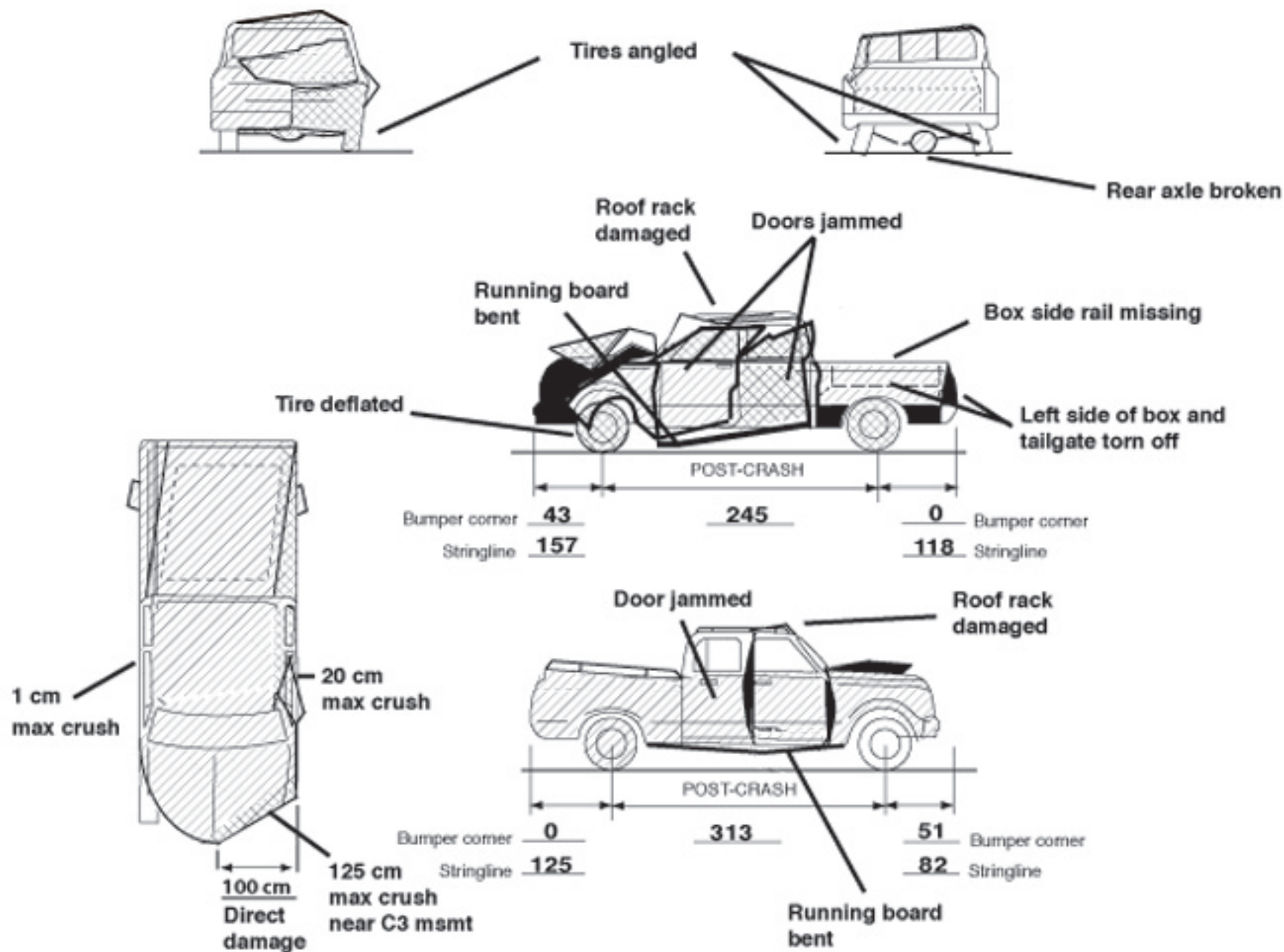


[Click for Passenger airbag figure](#)

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Variable Number and Name	Code Value	Code Description	Other Options
V1501 — Driver Airbag Equipped	1	Yes	<a href="#">more</a>
V1502 — Driver Airbag Deployed	1	Yes	<a href="#">more</a>

# MEASUREMENTS IN CENTIMETERS





## WINDSHIELD MARK ON CASE VEHICLE:



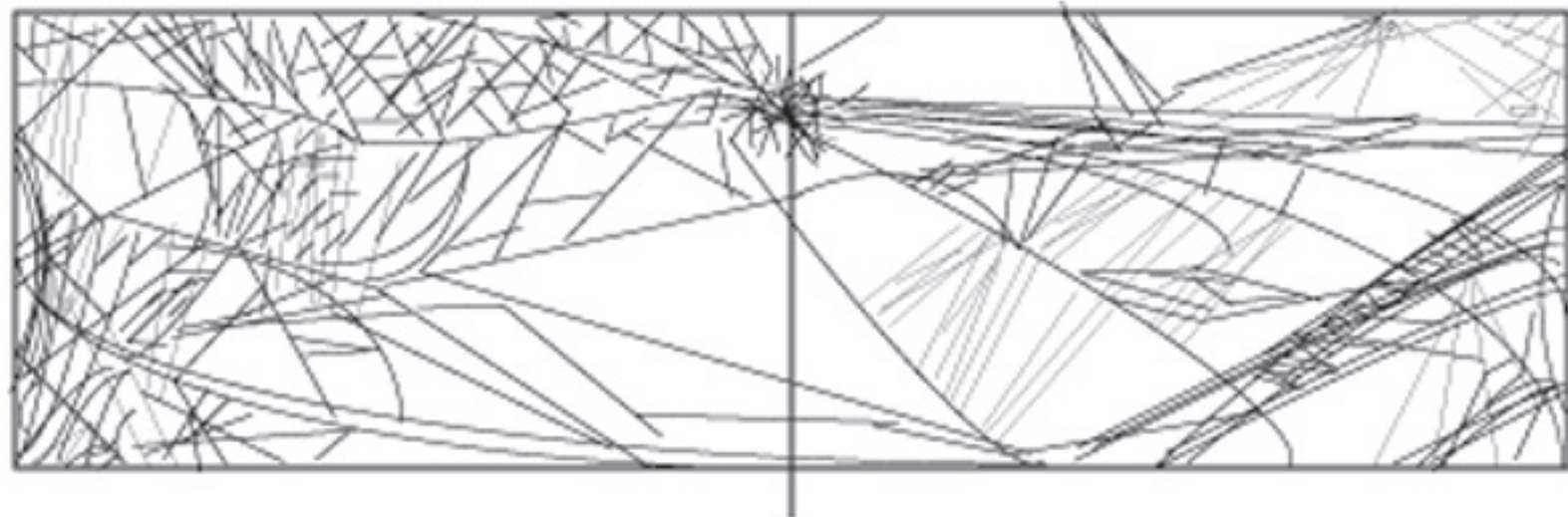
LAMINATED GF

DOT 15 AS1 M1 ?

TRANS. 70% MIN.

PILKINGTON ?

?



1 = Definitely 2 = Probably 3 = Possible

2003 S-10

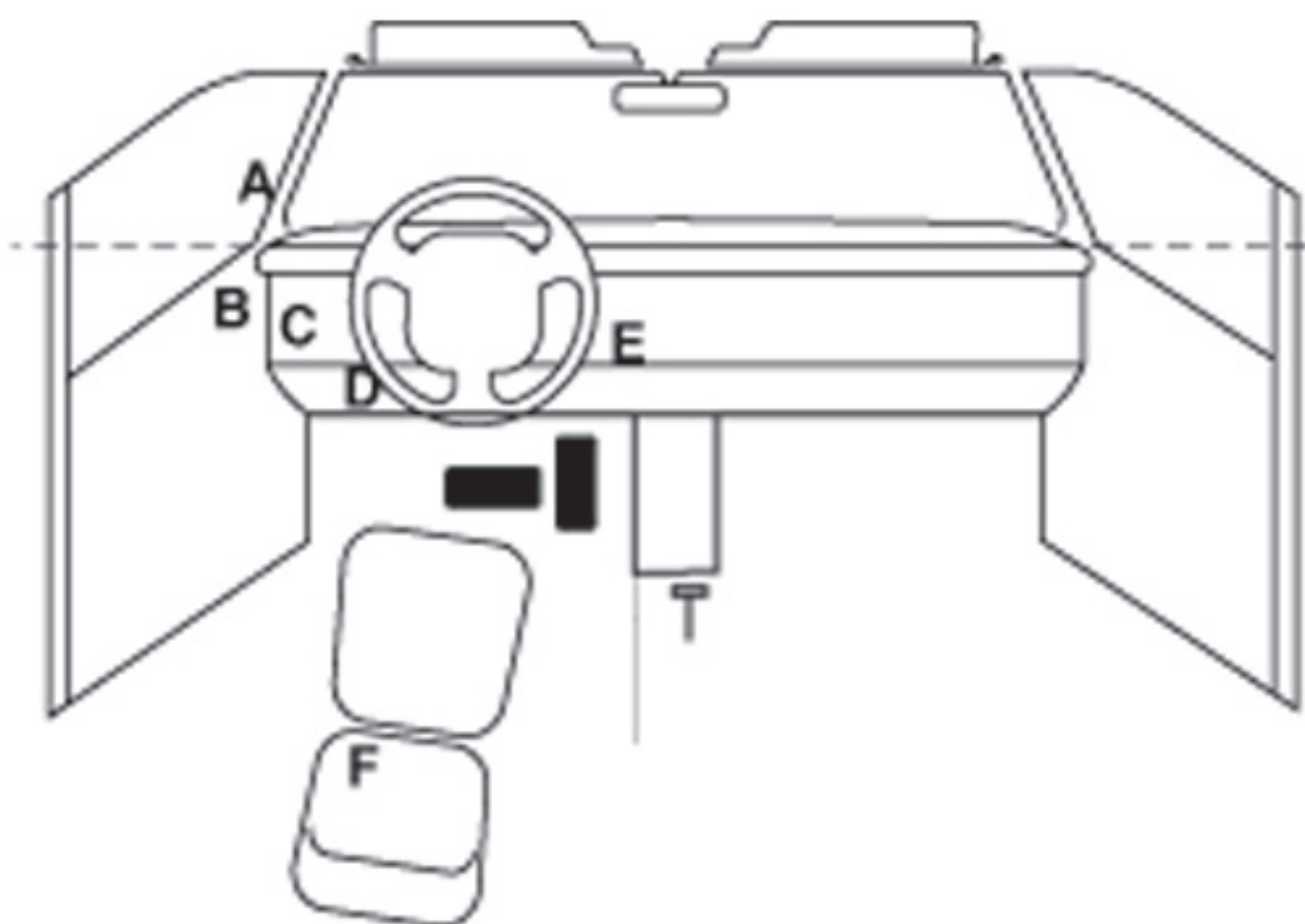
All intrusion measurements measured at stringline @ 290 rear

## INTRUSION IT-1

Location of Intrusion	Intruded Component	(All Measurements Are in Centimeters)				Dominant Crush Direction
		Comparison Value	–	Intruded Value	= Intrusion	
11	Toe pan	102	–	54	= 48	Rear
11	Instrument panel	62	–	19	= 43	Rear
11	Steering column	46	–	17	= 29	Rear
11	Roof siderail	58	–	50	= 8	Right
12	Instrument panel	59	–	41	= 18	Rear
13	Toe pan	96	–	79	= 17	Rear
13	Instrument panel	79	–	64	= 15	Rear
21	Roof siderail	49	–	39	= 10	Right
21	B-pillar	49	–	39	= 10	Right
			–		=	
			–		=	
			–		=	

## OCCUPANT CONTACT WORKSHEET

Contact	Interior Component Contacted	Occupant No. if Known	Body Region if Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	A-pillar	DR	Left forearm	Scuff mark	3
B	Door panel	DR	Left leg	Scuff mark	2
C	Instrument panel	DR	Left forearm	Scuff mark	3
D	Knee bolster	DR	Left knee	Scuff mark	2
E	Vertical console	DR	Right knee	Scuff mark	2
F	Seatback	DR	Buttock	Fabric transfer	1
G					
H					
I					
J					
K					



**A= A-pillar, scuff mark**

**B= Door panel, scuff mark**

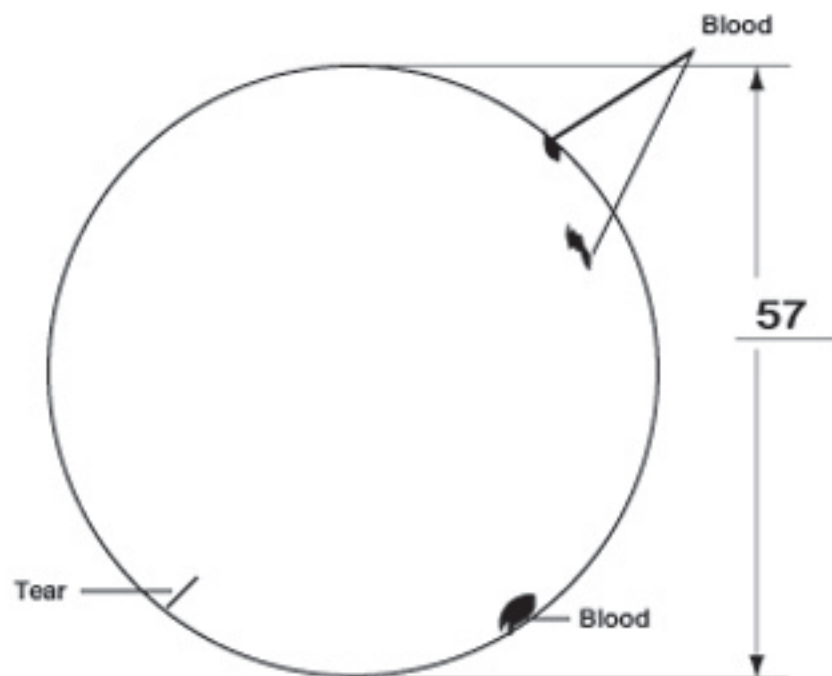
**C= Instrument panel, scuff mark**

**D= Knee bolster, scuffmark**

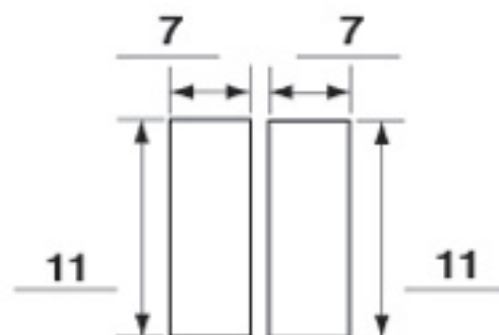
**E= Vertical console, scuff mark**

**F= Seatback, fabric transfer**

Driver Airbag



Driver Airbag Doors

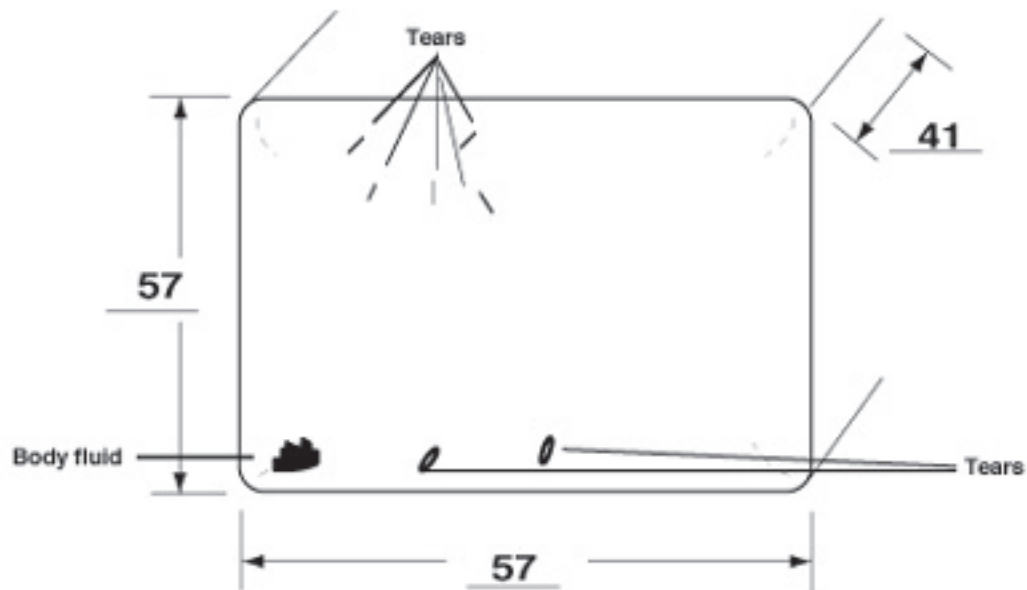


I-Pattern

Vents: ☒ Y ☐ N  
if yes, how many: 2

Tethers: ☒ Y ☐ N  
if yes, how many: 2

Passenger Airbag



Vents: ☒ Y ☐ N

If yes, how many: 2

Tethers: Y ☒ N

If yes, how many: \_\_\_\_\_

Passenger Airbag Doors

Single Door



































































































































































































































































































